

## MCF 3M Opener

Expand i)  $(x+6)(x-7)$ 

ii)  $(3x+2)^2$

Factor iii)  $2m^2 + 4m + 8$ 

iv)  $3r^2t + 9rt^2 + 27rt$

Feb 11-3:37 PM

## MCF 3M Opener

Expand i)  $(x+6)(x-7)$ 

$$x^2 - 7x + 6x - 42$$

$$x^2 - x - x - 42$$

$$(3x+2)(3x+2)$$

$$9x^2 + 6x + 6x + 4$$

$$9x^2 + 12x + 4$$

Factor iii)  $2m^2 + 4m + 8$ 

$$2(m^2 + 2m + 4)$$

$$3r^2t + 9rt^2 + 27rt$$

$$3rt(r + 3t + 9)$$

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## Partial Factor

$$10x^2 - 5x - 6xy + 3y$$

$$5x(2x-1) - 3y(2x-1)$$

$$(2x-1)(5x-3y)$$

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16 a)

$$9xa + 3xb + 6a + 2b$$

$$3x(3a+b) + 2(3a+b)$$

$$(3a+b)(3x+2)$$

$$9xa + 3xb + 6a + 2b$$

$$9xa + 6a + 3xb + 2b$$

$$3a(3x+2) + b(3x+2)$$

$$(3x+2)(3a+b)$$

Sep 20-8:34 AM

Factoring

Decomposition

$$ax^2 + bx + c$$

$$x^2 - 3x - 40$$

$$x^2 - 8x + 5x - 40$$

$$x(x-8) + 5(x-8)$$

$$(x-8)(x+5)$$

$$x^2 - 3x - 40$$

$$x^2 + 5x - 8x - 40$$

$$x(x+5) - 8(x+5)$$

$$(x+5)(x-8)$$

middle term (b) two - outside (a, c)

A	M
-3	-40
-40	
1	40
2	20
4	10
+5	-8

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$$2x^2 - 7x - 4$$

$$2x^2 + 1x - 8x - 4$$

$$x(2x+1) - 4(2x+1)$$

$$(2x+1)(x-4)$$

A Multiply

-7	-8
-8	
1	8
2	4

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$$\begin{array}{l}
 x^2 + 9x - 36 \quad A | M \\
 \quad \quad \quad +9 \quad -36 \\
 x^2 + 12x - 3x - 36 \\
 x(x+12) - 3(x+12) \\
 (x+12)(x-3) \\
 \hline
 2x^2 + 18x - 72 \quad \text{Common Factor} \\
 2(x^2 + 9x - 36) \\
 2(x^2 + 12x - 3x - 36) \quad A | M \\
 2(x(x+12) - 3(x+12)) \quad +9 \quad -36 \\
 2(x(x+12) - 3(x+12)) \quad -3 \quad +12 \\
 2(x+12)(x-3)
 \end{array}$$

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## Homework

$$\begin{array}{l}
 14. a) \quad x^2 + 3xy - 10y^2 \quad A | M \\
 \quad \quad \quad +3 \quad -10 \\
 x^2 + 5xy - 2xy - 10y^2 \\
 x(x+5y) - 2y(x+5y) \quad -10 \\
 (x+5y)(x-2y) \quad +5 \quad -2
 \end{array}$$

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## Hmk

p. 100

q. 5,6,8,9,11,13,14b)d)

Sep 23-9:00 AM

$$\begin{array}{l}
 14 c) \quad -5m^2 + 15mn - 10n^2 \\
 -5(m^2 - 3mn + 2n^2) \\
 -5(\underline{m^2 - 2mn} - 1mn + 2n^2) \quad A | M \\
 \quad \quad \quad -3 \quad +2 \\
 -5(m(m-2n) - n(m-2n)) \quad -2 \quad -1 \\
 -5(m-2n)(m-n)
 \end{array}$$

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$$\begin{array}{l}
 (x+y)^2 - 5(x+y) + 6 \\
 x^2 + 2xy + y^2 - 5x - 5y + 6 \\
 \dots \dots \dots \\
 (x+y)(x+y) - 5(x+y) + 6 \\
 (x+y)(x+y-5) + 6
 \end{array}$$

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